

SUPPORT FOR THE AMENDMENT

Claims 1-35 and 37-42 have been canceled.

Claims 47-50 have been canceled.

Claims 36 and 59 have been amended.

The amendment of Claims 36 and 59 is supported by the originally filed claims and the specification at page 5, lines 5-8, page 7, line 26 to page 12, line 20, as well as the Examples.

No new matter is believed to have been introduced by the present amendment.

REMARKS

Claims 36, 43-46, and 51-61 are pending in the present application.

Applicants would like to thank Examiner Baum for the helpful and courteous discussion with their undersigned Representative on July 12, 2007. During this discussion, various amendments and arguments were discussed to address the outstanding rejections. The content of this discussion is believed to be reflected in the amendments and remarks herein. Reconsideration is respectfully requested in view of the following comments and the amendments presented herein.

The rejections of: (a) Claims 36 and 43-45, 47-50, and 52-61 under 35 U.S.C. § 112, first paragraph (“written description”), and (b) Claims 46 and 43-61 under 35 U.S.C. § 112, first paragraph (“enablement”), are obviated in part by amendment and traversed in part.

The Office has alleged that the specification fails to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. These rejections are based upon the breadth of protein sequences that would be useful in the method as claimed. Applicants disagree with the Examiner’s allegations of lack of description and enablement; however, to expedite examination, Applicants have limited the claims to proteins having at least 95% identity to SEQ ID NO: 2. Such a sequence is clearly supported by the specification and the skilled artisan would be readily able to practice the claimed invention.

Applicants submit that this degree of homology in the claimed invention is consistent with the currently position of the Office as manifest by a recent decision by the U.S. PTO’s

Board of Patent Appeals and Interferences (*Ex parte Bandman*; copy submitted herewith) in which the Board held that claims to amino acid sequences that are at least 95% homologous to the disclosed sequence are adequately described and enabled when the specification describes the nucleotide and amino acid sequences. In this case, the polynucleotide sequence encoding SEQ ID NO: 2 is set forth in SEQ ID NO: 1. Accordingly, Applicants submit that the claims, as amended, meet the enablement standard to the extent that the range of sequence identity is limited to at least 95% (see Claim 36).

Further, with respect to the sufficiency of the disclosure for describing the claimed sequence, the Examiner's attention is directed to Example 14 of the Synopsis of Application of Written Description Guidelines which analyzes a situation where a claim covers a protein that is at least 95% identical to a disclosed sequence and has a specific function. In these guidelines, the Patent Office has concluded that such a claim is adequately described within the meaning of 35 U.S.C. § 112, first paragraph

There is actual reduction to practice of the single disclosed species. The specification indicates that the genus of proteins that must be variants of SEQ ID NO: 3 does not have substantial variation since all of the variants must possess the specified catalytic activity and must have at least 95% identity to the reference sequence, SEQ ID NO: 3. The single species disclosed is representative of the genus because all members have at least 95% structural identity with the reference compound and because of the presence of an assay which applicant provided for identifying all of the at least 95% identical variants of SEQ ID NO: 3 which are capable of the specified catalytic activity. One of skill in the art would conclude that applicant was in possession of the necessary common attributes possessed by the members of the genus.

Conclusion: The disclosure meets the requirements of 35 USC §112 first paragraph as providing adequate written description for the claimed invention.

Based on the foregoing, Applicants submit that the present claims are fully enabled by the specification and the common knowledge available in the art and as such withdrawal of this ground of rejection is requested.

Acknowledgement that this ground of rejection has been withdrawn is requested.

The rejection of Claims 36, 43-52, and 57-60 under 35 U.S.C. §102(a) over Liu et al, is obviated by amendment.

At the outset, Applicants note that the rejection is based on the research from Applicants' own research group. As such, even if Applicants were to agree with the Examiner as to the alleged content of this reference, Liu et al is essentially Applicants' own work.

Nonetheless, Applicants have amended Claim 36 to include the limitations of Claims 54 and 55, in alternative form. The Examiner has recognized that Liu et al fail to disclose or suggest the over-expression in accordance with previous Claims 54 and 55. Therefore, for the reasons that Claims 54 and 45 are free from Liu et al so to is amended Claim 36.

In view of the foregoing, Applicants request withdrawal of this ground of rejection.

The rejection of Claim 59 under 35 U.S.C. §112, second paragraph, is obviated by amendment.

Applicants have amended Claim 59 to depend from Claim 58. In so doing, all terms in the claims find antecedent support in the preceding claims.

Withdrawal of this ground of rejection is requested.

Finally, Applicants respectfully request that the obviousness-type double patenting rejections of Claims 36 and 43-61 over Claims 8-11, 19-22, 29-33, 41-44, 52-55, and 63-66 of US 6,727,408 be held in abeyance until an indication of allowable subject matter in the present application. If necessary, a terminal disclaimer will be filed at that time. Until such a time, Applicants make no statement with respect to the propriety of this ground of rejection.

Applicants submit that the application is in condition for allowance. Early notice to this effect is earnestly solicited.

Respectfully submitted,

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